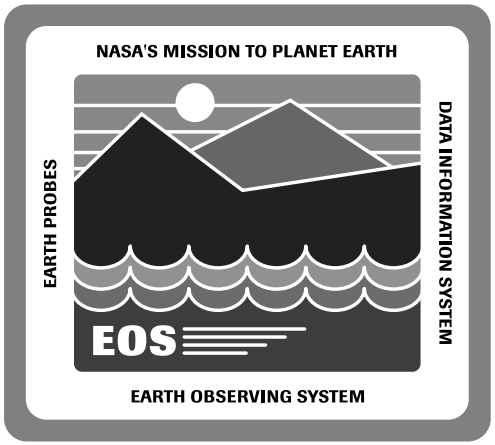

ECS Risk Management

Bob Clinard

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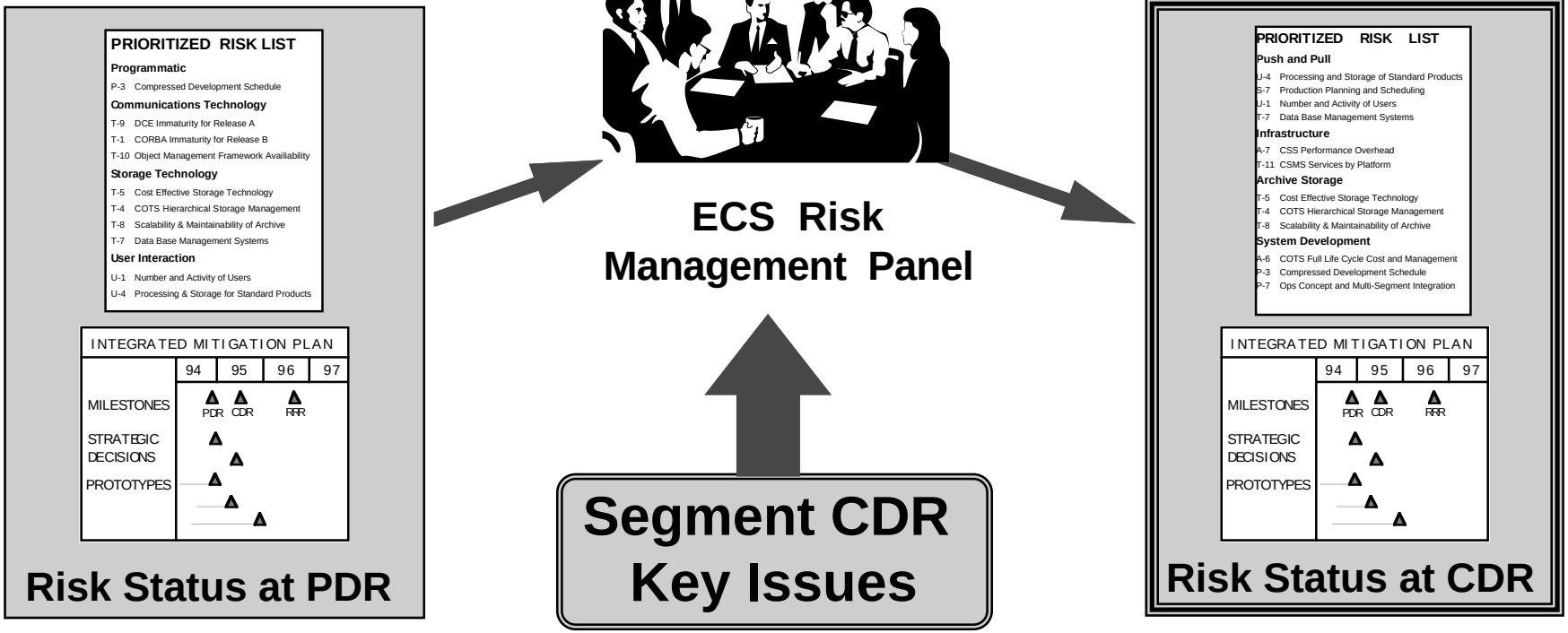
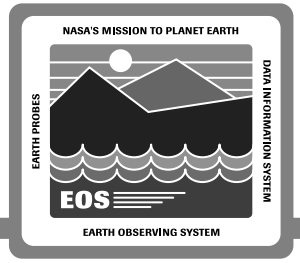
ECS Release A SDPS/CSMS Critical Design Review
17 August 1995

ECS Program Risk Management



Prioritized Release A Risk List from PDR



Infrastructure

- A-7 CSS Performance Overhead
- T-11 CSMS Services by Platform

Archive Storage

- T-5 Cost Effective Storage Technology
- T-4 COTS Hierarchical Storage Management
- T-8 Scalability & Maintainability of Archive

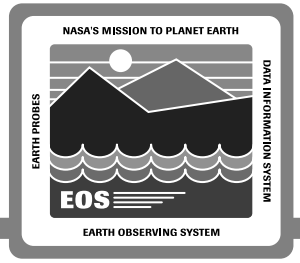
ECS Program Risks Status: Rel A Infrastructure

	Risk Item	Status	Release A Action/Design Impact
A-7	**CSS Performance Overhead**	• IR1 delivery Dec. '95; Evaluations planned • CSS Performance Testing (Sockets and RPCs) • DFS, NFS Performance Results, DID 305-12	• Analysis showed one software layer should be dropped from design; fewer layers will improve performance • FTP selected for bulk data transfer
T-11	**CSMS Services by Platform**	• OODCE in IR1 on platforms where needed	• Agreements made with vendors for needed Release A ports

ECS Program Risks Status: Rel A Archive Storage

	Risk Item	Status	Release A Action/Design Impact
T-5	**Cost Effective Storage Technology**	• STK WolfCreek 9360 used to collect H/W characterization data • Characterization data to be used in system sizing • Prototype evaluation of E-Systems EMASS and Convex UniTree • Prototype used to investigate influence of FSMS on the data transfer rates • Data compression studied and documented; Prototyped also • Continue to assess tape technology	• NTP selected for Relaese A; forecast helical scan or optical for Release B and beyond • Multi-media robotics selected to allow for technology insertion
T-4	**COTS Hierarchical Storage Management**	• Multi-FSMS prototype evaluated multiple FSMS and routing between • FSMS Prototype evaluated FSMS w/in UFS and FSMS separate from UFS; examined functional capabilities mapped to ECS Program Req't. • Core Data Server prototyped	• COTS encapsulation strategy to support technology insertion • Encapsulated AMASS software for Release A • Architecture is not based on COTS supplying a virtual file system view of the archive

ECS Program Risks Status: Rel A Archive Storage (cont.)



	Risk Item	Status	Release A Action/Design Impact
T-8	**Scalability & Maintainability of Archive**	• NAS prototype examined implementation issues and risk factors • Data Server prototype included in EP6 • Multi-resident AFS proof of concept prototype examined data retrievals in heterogeneous storage environment • FSMS COTS prototype evaluated AMASS and EpochServ • AMASS and EpochServ trade FSMS w/in UFS and separate from UFS, respectively	• Storage management design at Release A (host-based storage) anticipates likely Release B design (network-attached storage) and facilitates transition • Multi-media robotics selected to allow for technology insertion